

December 4, 2014

MEMORANDUM

TO: Zachariah E. Beasley, P.S., M.S. - Tippecanoe County Surveyor

FROM: David W. Eichelberger, P.E. - CBBEL, Indianapolis
Stephen D. Benagh, CFM, CISEC - CBBEL, Indianapolis

PROJECT: **Purdue Agronomy Center - ACRE
CBBEL Project No. 02-038 (NI)**

DEVELOPER/OWNER: **Purdue University**

LOCATION: **40° 28' 10" Latitude
-86° 59' 40" Longitude**

RECOMMENDATION: **Conditional Approval**

Purdue University is proposing to construct a new 25,000 square foot Agronomy Center and related drives and parking on approximately 8.6 acres of the Purdue University Agronomy Farm located approximately 1,300 feet east of County Road 500 West, on the north side of U.S. 52, in Wabash Township. The project also accounts for future expansion of an additional 10,000 feet to the building and 94 parking spaces. The current land use is row crop and will be converted to impervious areas and grass. The current drainage patterns are from north to west and north to south to and existing 24" culvert under U.S. 52 and ultimately to Indian Creek. The project site is located in the Indian Creek Drainage Impact Area.

Based on information available to CBBEL, it does not appear that any Tippecanoe County Regulated Drain exists at or near the project site. There are no regulated drain outlets, encroachments, or crossings proposed with this development. Runoff from the site eventually discharges to Indian Creek. The project site is within the Tippecanoe County MS4 Area. The project site is not within a 305(b) Priority Watershed.

This project was previously reviewed in a memorandum dated November 18, 2014. After a review of the most recently provided information, CBBEL recommends approval of the stormwater management plan with the following conditions:

1.0 Variances/Encroachments

1. The applicant is requesting a variance on the allowable release rates from the site. The use of orifices of 5" and 4" on the proposed detention basins does not allow compliance with the restricted release rate requirements for the Indian Creek Watershed, but does allow the detention basins to return to the required storage volume per the requirements of Chapter 6.C.1 of the Technical Standards. Due to the final release rate from the development of 0.81 cfs during the 100-year storm event and the need to return to required storage volume for subsequent storm events, CBBEL can support the variance request.
2. The applicant is requesting a variance from Chapter 8 regarding the timing requirements for Channel Protection Volume (CPv) for the project. The proposed facility should release no more than 40% of the storage volume in the first 12 hours, and only 10% of the storage should be remaining after 36 hours. The project is within the restricted Indian Creek Watershed and detention storage and maximum release rates are critical. The applicant has shown that the

proposed project, though not adhering specifically to the restrictive release rate requirements, does provide release rates that are substantially lower than standard release rates and the detention draw down requirements are being met which is critical for subsequent storm events. As a result, the project is unable to meet the CPv requirements described above. CBBEL can support the variance request.

3. The applicant is requesting a variance from Chapter 8 regarding the timing requirements for Water Quality Volume (WQv) for the project. The proposed facility should release no more than 40% of the storage volume in the first 12 hours, and only 10% of the storage should be remaining after 36 hours. The project is within the restricted Indian Creek Watershed and detention storage and maximum release rates are critical. The applicant has shown that the proposed project, though not adhering specifically to the restrictive release rate requirements, does provide release rates that are substantially lower than standard release rates and the detention draw down requirements are being met which is critical for subsequent storm events. As a result, the project is unable to meet the WQv requirements described above. CBBEL can support the variance request.

2.0 Stormwater Quantity

1. The final plans and drainage report are to be certified.
2. The final plans should correct the maximum pond elevations shown on Sheets C201, C301, C303, C304, L101 and L102 to correspond with the latest modeling revisions.
3. Copies of all approvals from the Indiana Department of Transportation (INDOT) will be required for discharge into and all work within the Right-of-Way of US 52.

3.0 Stormwater Quality

1. None.

4.0 General Conditions

1. The applicant must present the project at the Tippecanoe County Drainage Board meeting for the project to be considered for approval.
2. Final construction plans shall be signed by the Tippecanoe County Surveyor. The number of plan sets to be signed will be determined by the Tippecanoe County Surveyor's Office.
3. No site work of any type shall start on this project without a pre-construction meeting with the Tippecanoe County Surveyor's Office.
4. The applicant must pay any final drainage review fees per Ordinance 2011-27-CM and pay the Phase II stormwater program fees.
5. If no assurance is required under the Unified Subdivision Ordinance, Section 4.1, the Comprehensive Stormwater Management Ordinance of Tippecanoe County (Ordinance) still requires an assurance, made out to the Tippecanoe County Drainage Board, for an amount equal to 100% of the total costs of implementing measures required by Chapters 3, 4, and 5 of the Ordinance. See Chapter 6, Section 7 of the Ordinance for more information.
6. The property owner, developer, or contractor shall be required to file a three-year maintenance bond or other acceptable guarantee with the Tippecanoe County Drainage Board, prior to final approval, in an amount not to exceed ten percent (10%) of the cost of the stormwater drainage

system located outside the public road right-of-ways. See Chapter 6, Section 9 of the Ordinance for more information.

7. The applicant must submit digital copies of both the Final Construction Plans and Final As-Built Plans.
8. All listed issues must be completely addressed before final plan approval and sign-off will be granted by the County Surveyor's Office.

No error or omission in the plans, calculations or applications (whether said plans, calculations or applications have been reviewed by the review engineer or not) shall permit or release the applicant and designer from constructing this work in any other manner than that provided for in the County Ordinance.

pc: The Schneider Corporation

DWE/sb
M02-038NI2.DOC